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INFORMATION FROM THE PAMPHLET "MEASURING /SIGNAL/ GENERATORS AND OSCILLOSCOPES

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The following report consists of information taken from the pamphlet "Measuring Generators and Oscilloscopes" published by Gosenergoizdat. It includes descriptions and the characteristics of an oscilloscope and a signal generator, the publisher's note, and the Table of Contents plus a brief comment on another signal generator.

Technical Characteristics of the Plant-Produced Oscilloscope EO-5 /Inside front cover/

1. Supply: The supply voltage is 50-cycle 110 or 220 v. The power drawn is 55 w.

2. Dimensions: Height, 360 mm; width, 207 mm; length, 400 mm; weight, 16 kg.

3. Tubes Used and Their Functions: Horizontal amplifier, one 6Zh7 /6G7 or 6J7?/; vertical amplifier 6Zh7 (2); sweep oscillator, 6Zh7, 6F6, and 6K7 (1 each); cathode-ray tube, LO-729 (1); rectifiers, 6X5 (2).

4. Basic Parameters: Deflection sensitivity for a 1,000 cps input through the amplifiers -- Y-axis, 25 mm/v; X-axis, 25 mm/v. Deflection sensitivity when voltage is applied directly to the plates of the CR tube -- Y-axis, 0.85 mm/v; X-axis, 1 mm/v. Frequency range of the sweep oscillator -- 2 cps to 200 kc.

5. Vertical amplifier: Maximum input voltage, 250 v. Input resistance, 0.5 MΩ in parallel with 60 μμfd. Frequency response is flat in the frequency band from 10 cps to 200 kc with maximum amplification. Amplification factor, 30.

6. Horizontal amplifier: Maximum input voltage, 250 v. Input resistance, 0.5 MΩ in parallel with 50 μμfd. Frequency response is flat in the frequency band from 10 cps to 100 kc with maximum amplification. Amplification factor, 25.

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Technical Characteristics of the Type SG-1 Plant-Produced Signal Generator /inside front and back covers/

The Type SG-1 ultrashort-wave signal generator is designed to generate voltage-calibrated, modulated and unmodulated electromagnetic oscillations over a wide range of frequencies. It can be used for testing and tuning ultrashort-wave receivers.

1. The frequency band of the signal generator is from 13 to 330 Mc, divided into the following five sub-bands: 13-22 Mc, 22-50 Mc, 50-120 Mc, 120-240 Mc, and 240-330 Mc. The scale of the tuning capacitor is calibrated directly in megacycles. Under normal operating conditions, the accuracy of the frequency calibration is ±2%.

2. The rf output voltage of the signal generator can be varied from 4 μv to 20 mv with the help of a voltage divider. The output scale is calibrated for one frequency (40 Mc) according to the voltage values measured at the unloaded end of a cable.

3. The accuracy of the output voltage calibration, independent of frequency, is ±25% for voltages above 40 μv and ±40% for voltages below 40 μv.

4. Modulation. Four types of operation are provided for in the instrument:

a. Amplitude modulation from the internal oscillator with a frequency of 1,000 cps ±10% with modulation percentages from 10 to 60%.

b. Amplitude modulation from an external oscillator in the frequency band from 100 to 20,000 cps. In this application, the af amplifier connected to the "external operation" terminals produces a nonlinearity of less than ±5 db throughout the band. The accuracy of the modulation percentage calibration is ±20%; the calibration is made with an rf oscillator frequency of 40 Mc.

c. Pulse modulation is accomplished from an external pulsed oscillator connected to a special coaxial terminal.

d. Operation with unmodulated rf oscillations has also been provided for.

5. Supply of the Instrument. The instrument is supplied from a 50-cycle, 110- or 220-v ac line. The rectified voltage is stabilized by means of a 150C5-30 ionic regulator. Permissible line voltage variations are from 90 to 130 volts or 190 to 240 volts, respectively.

Publisher's Note

The pamphlet contains descriptions of signal generators, frequency-modulated oscillators, audio oscillators, and oscilloscopes which were awarded prizes at the Eighth All-Union Correspondence Radio Exhibition.

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The signal generator designed and built by Lazarev and Luk'yanchikov, Leningrad radio amateurs, is a symmetric multivibrator which operates completely on alternating current. In this multivibrator, employing two 955 acorn tubes, the fundamental frequency is 2.5 kc, and the harmonics form a frequency spectrum extending to 20 Mc through 2.5 kc increments. The instrument is mounted in a case obtained from a 10-μfd electrolytic capacitor, 35 mm in diameter and 120 mm long. Its uses are the usual ones: finding the faulty stage of a receiver, checking the amplification of receiver stages, checking the tracking of tuned circuits in a receiver in all bands, etc.

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